



**US Army Corps
of Engineers®**

Engineer Research and
Development Center

Navigation Systems Research Program

Navigation Channel Assessment

Problem Navigation Channel Asset Management Tools, Channel Reliability, Channel Condition Indices. USACE completes hundreds of navigation channel condition surveys annually in support of the Navigation Business Line and dredging program. These surveys are typically used once, then archived in disparate systems in a variety of formats and rarely used again. There is a need to automate access to these data so that engineering and technical data can be extracted for a number of functions supporting Dredging Business Management. Additionally, the Corps is required by law to provide a navigation channel condition reports to the NOAA National Ocean Service within 60 days of completion of a survey, which is a labor intensive effort.

Research Approach Leverage activities in a number of USACE programs {IENC, SWWRP, eGIS} to synthesize a standard business process to access hydrographic survey data from the field to District enterprise GIS geodatabases. Next, identify and develop navigation performance measures related to navigation channel reliability and document these measures. Automate calculations of these measures and develop a standard approach to reporting and monitoring changes from survey to survey. These calculations lay the foundation for Channel Risk Management efforts that may occur later in the Dredging Business Management work unit of DOER. As a by-product, this complements and leverages most of the channel condition information required to be provided to the NOAA National Ocean Service. Therefore, this effort will link with the digital, automated system to transmit these data to NOAA and leverage activities that are being developed by the USACE IENC program.

Labs/others involved Mobile District, Topographic Engineering Center

Final Products It will develop a business flow and practice that utilizes modern web-based tools and architecture to automate processes to move channel condition survey data from the field to a District server where automated calculations on channel reliability based on channel depth and width parameters can be performed and reported to the Operations Manager and Program Manager.

Point of Contact W. Jeff Lillycrop, 109 St. Joseph Street, Mobile AL 36602